

REMARKS

Claims 1-10, 12-21 and 23 are pending in the present application. Claims 1, 7, 8, 9 and 23 are in independent form. Claims 1 and 23 are amended. In view of the above amendments and the following remarks, favorable reconsideration and allowance of the present application is respectfully requested.

I. CLAIM AMENDMENTS

By the present Amendment, Applicants submit that independent claims 1 and 23 have been amended. Applicants submit that support for amended independent claims 1 and 23 may be found, at least, on page 85 of the Specification, as originally-filed.

Thus, Applicants submit the amendments do not introduce new matter.

II. EXAMPLE EMBODIMENTS

Example 5, Example 6, Comparative Example 7 and Comparative Example 8 of the instant Specification were formulated such that all examples are derived from the water absorbent resin (A1) obtained in Referential Example 6. Example 5 and Comparative Example 7 have a similar centrifuge retention capacity (CRC) of 28.2 g/g and 28.4 g/g, respectively. Example 6 and Comparative Example 8 have an identical centrifuge retention capacity (CRC) of 28.0 g/g. Thus, in the following comments, a comparison is made with respect to the moisture absorption

blocking ratio and the multivalent metal component extraction rate (M), as well as the multivalent metal component extraction rate (M) and the concentration of the multivalent metal, of compositions having a similar centrifugal retention capacity (*e.g.*, Example 5, Example 6, Comparative Example 7 and Comparative Example 8).

Table 1 (below) shows the concentration (S/T-(M)) of the multivalent metal, the saline flow conductivity (SFC), the multivalent metal component extraction rate (M) and the moisture absorption blocking ratio (B.Ra) for Example 5, Example 6, Comparative Example 7 and Comparative Example 8, as taken from Table 4 of the Specification.

	S/T-(M)	SFC	M	B.Ra
EXAMPLE 5	2.93	143	8.8	12
EXAMPLE 6	2.35	135	7.4	21
COMPARATIVE EXAMPLE 7	1.62	108	5.5	65
COMPARATIVE EXAMPLE 8	1.01	98	2.9	68

TABLE 1

Graph 1 in Appendix A shows the relationship between the moisture absorption blocking ratio (B.Ra) and the multivalent metal component extraction rate (M) of Example 5, Example 6, Comparative Example 7 and Comparative Example 8. Graph 2 in Appendix B shows the relationship between the multivalent metal component extraction rate (M) and the concentration (S/T-(M)) of the multivalent metal.

In Graph 2, the multivalent metal component extraction rate (M) increases as the concentration (S/T-(M)) of the multivalent metal increases. Thus, the multivalent metal component extraction rate (M) and the concentration (S/T-(M)) are proportional to each other.

In Graph 1, the moisture absorption blocking ratio (B.Ra) and the multivalent metal component extraction rate (M) are not proportional to each other. The reduction rate (the gradient of straight lines connecting the plots on Graph 1) of the moisture absorption blocking ratio (B.Ra) is different in Comparative Examples 7 and 8 (which have a relatively small multivalent metal component extraction rate) than the reduction rate of the moisture absorption blocking ratio (B.Ra) in Examples 5 and 6 (which have a relatively large multivalent metal component extraction rate). Thus, the moisture absorption blocking ratio (B.Ra) decreases (i.e., the moisture absorption blocking property increases) if the multivalent metal component extraction rate (M) exceeds a certain value.

According to other example embodiments, where the multivalent metal component extraction rate is too high, the multivalent metal component cannot be evenly mixed on the surface of the water absorbent resin. While, in cases where the extraction rate of the multivalent metal component is less than 5.0 wt%, the multivalent metal component permeates the water absorbent resin. Thus, it is difficult to increase the moisture absorption blocking property so that the increase corresponds to the amount of the multivalent metal component.

III. CITED ART GROUNDS OF REJECTION

(A) *Claims 1-4, 7-10, 12-21 and 23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Mertens et al. (hereinafter "Mertens"), WO 00/53644 (U.S. equivalent is U.S. Patent No. 6,605,673). Applicants respectfully traverse the rejection.*

i. INDEPENDENT CLAIM 1

Amended independent claim 1 is directed to a water absorbent resin composition wherein (*inter alia*) "the water absorbent resin composition contains 95 wt % or more of particles whose particle diameter is less than 850 μm and not less than 106 μm , and a weight average particle diameter of the particles is less than 500 μm and not less than 300 μm , and a logarithmic standard deviation (σ_z) of a particle size distribution of the water absorbent resin composition is 0.45 or less, and a water-soluble component of the water absorbent composition is 35 wt % or less, the water-soluble component being a value obtained by measuring an amount of the water-soluble component in a water-soluble component extract solution in which the water-soluble component of the water absorbent resin composition is extracted, the water-soluble component extract solution being prepared by adding the water absorbent resin composition to a saline and stirring the mixture thus obtained" and "a multivalent metal component, wherein an extraction rate of the multivalent metal component

around a surface of said particulate water absorbent resin is 10.0 wt % or more and less than 70 wt %.” Applicants submit that the art cited in the rejection fails to teach, or suggest, the above features recited in amended independent claim 1.

a. MERTENS

In response to the Applicants’ arguments that i) Mertens is silent about the “moisture absorption blocking property” of the absorbent polymer, and ii) the drop in the handling property of the water absorbent resin particles in high humidity if the water absorbing ability (*e.g.*, the retaining ability (TB value) and the permeability (SFC value)) is relatively high, the Examiner states that “..there is no data to support applicant’s arguments and court[s] held that arguments of counsel cannot take the place of factually supported objective evidence...” Action, p. 6.

However, Applicants submit that Mertens is similar to Comparative Examples 7 and 8, discussed above. That is, Mertens teaches that the super-absorbent polymer exhibits not only a high absorbing capacity under pressure, but a high retaining ability (TB value) and favorable permeability (SFC value), both of which are characteristics generally opposite to the absorbing ability, as discussed in Applicants’ Amendment filed on July 15, 2008. Thus, due to the high retaining ability (TB value) and favorable permeability (SFC value) of the polymer according to Mertens, a moisture absorption blocking

phenomenon occurs wherein the moisture absorption blocking ratio (B.Ra) increases (*i.e.*, the moisture absorption blocking property decreases). For at least these reasons, Applicants submit that “an extraction rate of the multivalent metal component around a surface of said particulate water absorbent resin is 10.0 wt % or more and less than 70 wt %” feature of independent claim 1 is not anticipated, or obvious, in view of the absorbent polymer of Mertens. Thus, the absorbent polymer of Mertens does not exhibit the claimed extraction rate for the multivalent metal component.

Further, contrary to the Examiners’ assertion, Applicants submit that the originally-filed Specification provides data (as discussed above) that supports Applicants’ arguments.

The Examiner further maintains that the “water-soluble component” recited in claim 1 corresponds to the water-soluble polymer taught by Mertens. That is, the Examiner states that “...Mertens et al disclose 0 to 30 wt% of a water-soluble polymer *i.e.* amount of water-soluble component is less than 35% and meets the claim limitation.” Action, p. 6.

However, Mertens teaches that water-soluble polymer may be “...partially or completely saponified poly(vinyl alcohol), polyvinylpyrrolidone, starch or starch derivatives, polyglycols, or poly(acrylic acids)...” Mertens, col. 5, ll. 49-55. That is, the water-soluble polymer is a component, not a characteristic, of the polymer product.

Thus, Mertens fails to provide any suggestion that the water-soluble polymer is “a value obtained by measuring an amount of the water-soluble component in a water-soluble component extract solution in which the water-soluble component of the water absorbent resin composition is extracted, the water-soluble component extract solution being prepared by adding the water absorbent resin composition to a saline and stirring the mixture thus obtained” as recited in amended independent claim 1. Thus, there is no teaching that suggests that the absorbent polymer of Mertans exhibits the claimed water-soluble component.

For at least these reasons, Applicants submit that Mertens fails to explicitly teach, or otherwise suggest, a water absorbent resin composition wherein “the water absorbent resin composition contains 95 wt % or more of particles whose particle diameter is less than 850 μm and not less than 106 μm , and a weight average particle diameter of the particles is less than 500 μm and not less than 300 μm , and a logarithmic standard deviation (σ_z) of a particle size distribution of the water absorbent resin composition is 0.45 or less, and a water-soluble component of the water absorbent composition is 35 wt % or less, the water-soluble component being a value obtained by measuring an amount of the water-soluble component in a water-soluble component extract solution in which the water-soluble component of the water absorbent resin composition is extracted, the water-soluble component extract solution being prepared by adding the water absorbent resin composition to a saline and stirring the

mixture thus obtained” and “a multivalent metal component, wherein an extraction rate of the multivalent metal component around a surface of said particulate water absorbent resin is 10.0 wt % or more and less than 70 wt %” as recited in amended independent claim 1.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to independent claim 1, and claims 2-4 at least by virtue of their dependency on independent claim 1.

ii. INDEPENDENT CLAIM 7

Independent claim 7 is directed to a method for producing a water absorbent resin composition including (*inter alia*) “adding a solution of an aqueous multivalent metal compound (B) to a particulate water absorbent resin (A) with a cross-linked surface” wherein “a concentration of the aqueous multivalent metal compound (B) in the solution is 0.40 or more with respect to a saturated concentration of the aqueous multivalent metal compound (B) in the solution.” Applicants submit that the art cited in the rejection fails to teach, or suggest, the above features recited in independent claim 7.

a. MERTENS

As discussed above, Applicants maintain that Mertens is silent about the “moisture absorption blocking property” of the absorbent polymer. Furthermore, the absorbent polymer of Mertans does not

exhibit the claimed extraction rate for the multivalent metal component.

As such, Applicants submit that Mertens fails to teach, or suggest, a method for producing a water absorbent resin composition wherein “a concentration of the aqueous multivalent metal compound (B) in the solution is 0.40 or more with respect to a saturated concentration of the aqueous multivalent metal compound (B) in the solution” as recited in independent claim 7.

Accordingly, reconsideration and withdrawal of the rejection to independent claim 7, and claim 10 at least by virtue of its dependency on independent claim 7.

iii. INDEPENDENT CLAIM 8

Independent claim 8 is directed to a method for producing a water absorbent resin composition wherein “a concentration of the multivalent metal component contained in a mixed solution including the solution of the aqueous multivalent metal compound (B) and the organic surface cross-linking agent (C) is at least 1.80 wt %.”

a. MERTENS

For similar reasons as discussed above with regard to the concentration of the multivalent metal component of Mertens, Applicants submit that Mertens also teaches away from “a concentration of the multivalent metal component contained in a mixed solution including the

solution of the aqueous multivalent metal compound (B) and the organic surface cross-linking agent (C) is at least 1.80 wt %” as recited in independent claim 8.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to independent claim 8, and claims 12-15 and 20 at least by virtue of their dependency on independent claim 8.

iv. INDEPENDENT CLAIM 9

Independent claim 9 is directed to a method for producing a water absorbent resin composition wherein “a concentration of the multivalent metal component contained in a mixed solution including the solution of the multivalent metal compound (B) and the organic surface cross-linking agent is at least 1.80 wt %.” Thus, Applicants submit that independent claim 9 is patentable over the cited art for similar reasons as noted above with respect to independent claim 8.

Accordingly, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to independent claim 9, and claims 16-19 and 21 at least by virtue of their dependency on independent claim 9.

v. INDEPENDENT CLAIM 23

Amended independent claim 23 is directed to a water absorbent resin composition wherein “the water absorbent resin composition contains 95 wt % or more of particles whose particle diameter is less than 850 μm and not less than 106 μm , and a weight average particle diameter of

the particles is less than 500 μm and not less than 300 μm , and a logarithmic standard deviation (σ_z) of a particle size distribution of the water absorbent resin composition is 0.45 or less, and a water-soluble component of the water absorbent composition is 35 wt % or less, the water-soluble component being a value obtained by measuring an amount of the water-soluble component in a water-soluble component extract solution in which the water-soluble component of the water absorbent resin composition is extracted, the water-soluble component extract solution being prepared by adding the water absorbent resin composition to a saline and stirring the mixture thus obtained” and “an extraction rate of the multivalent metal component around the surface of said particulate water absorbent resin is 6.6 wt % to 14.8 wt %.” Applicants submit that amended independent claim 23 is patentable over the cited art for similar reasons as given above with respect to independent claim 1.

As such, Applicants respectfully request that the Examiner reconsider and withdraw the rejection to independent claim 23.

(B) Claims 5-6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Mertens in view of Hatsuda et al. (hereinafter “Hatsuda”), U.S. Patent No. 6,562,879. Applicants respectfully traverse the rejection.

As discussed above, due to the high retaining ability (TB value) and favorable permeability (SFC value) of the polymer taught by Mertens, a moisture absorption blocking phenomenon occurs wherein

the moisture absorption blocking ratio (B.Ra) increases (*i.e.*, the moisture absorption blocking property decreases). For at least this reason, the absorbent polymer of Mertans does not exhibit the claimed features of the water absorbent resin composition recited in independent claim 1.

Because the water absorbent resin composition recited in independent claim 1 is not taught, or obvious, in view of Mertans, Applicants submit that it is difficult to arrive at the claimed features of the absorbent recited in claims 5 and 6 from the combination of Mertans and Hatsuda.

Thus, Applicants submit that claims 5 and 6 are patentable over the combination of Mertens and Hatsuda for their own merits, as well as by virtue of their dependency on independent claim 1.

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CONCLUSION

Accordingly, in view of the above, reconsideration of the rejections and allowance of each of claims 1-10, 12-21 and 23 in connection with the present application is earnestly solicited.

Should there be any matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY, & PIERCE, P.L.C.

By



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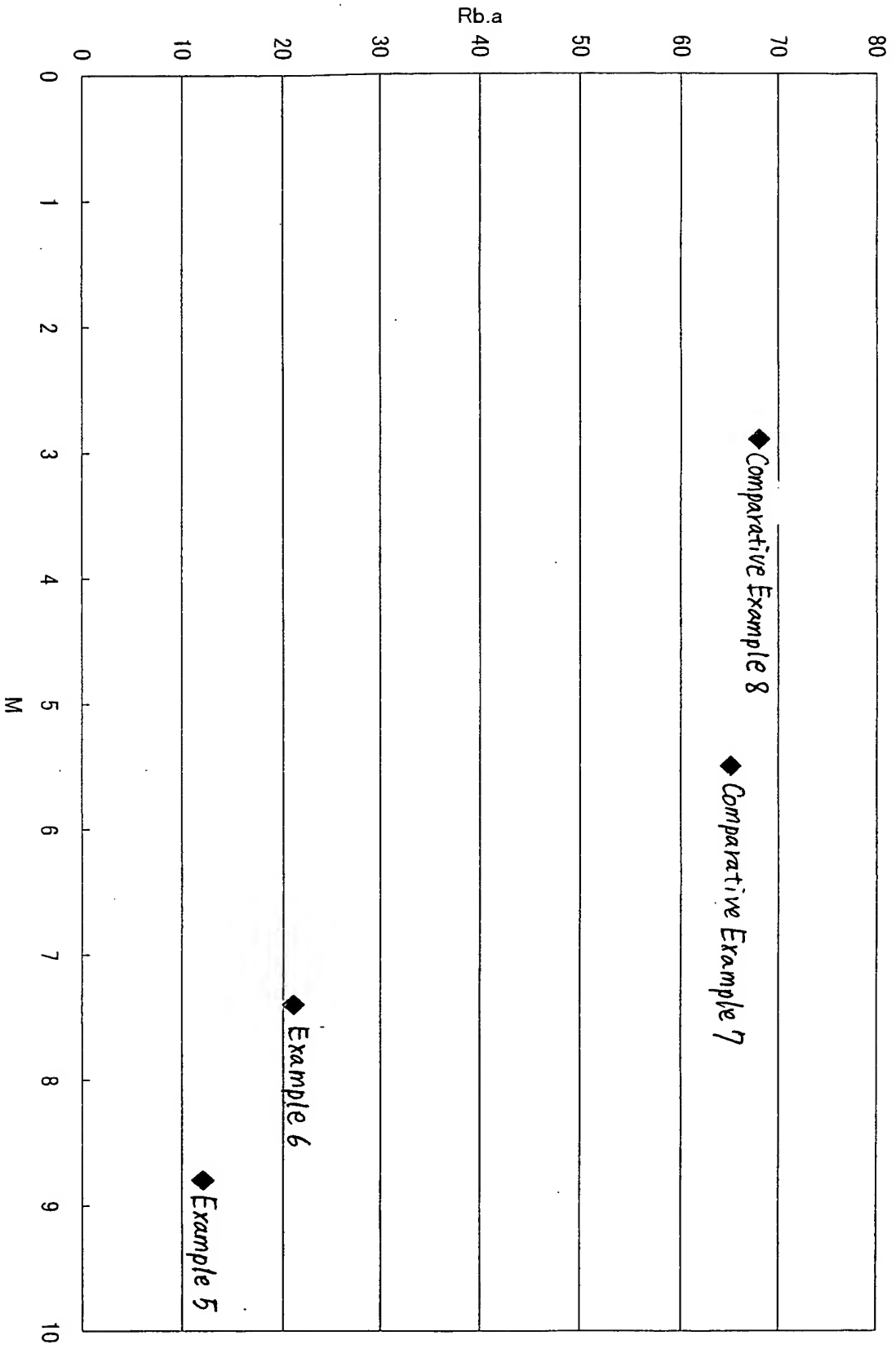
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Attachments: Appendix A and B (two (2) pages)

APPENDIX A

Graph 1



Graph 2

